Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

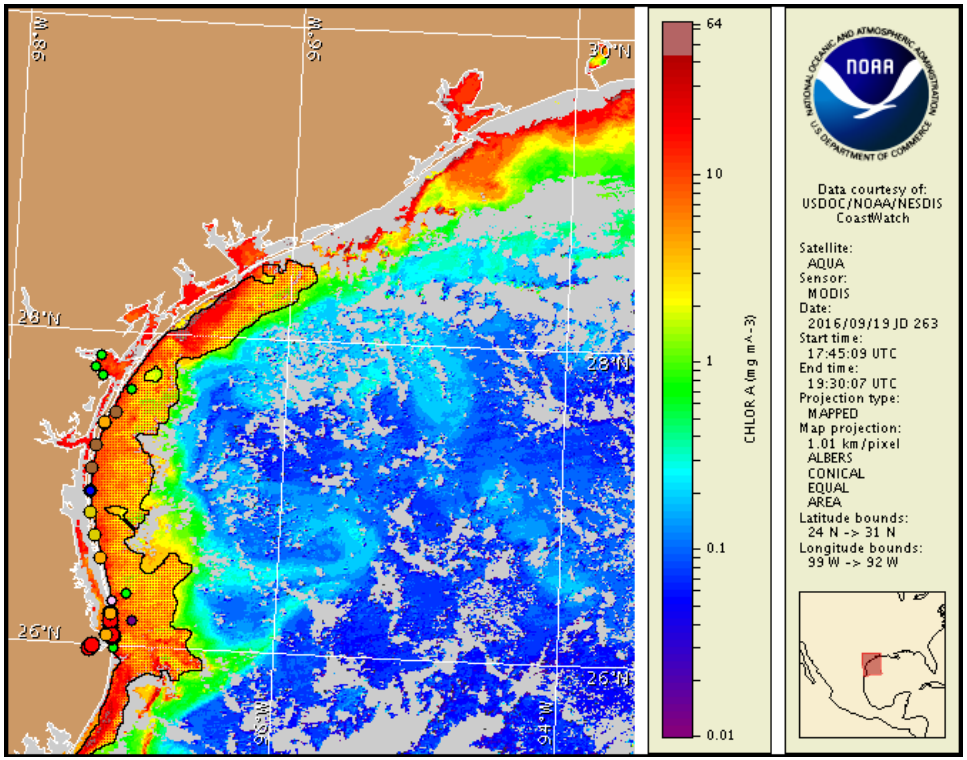
Thursday, 22 September 2016

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, September 19, 2016



Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from September 12 to 21: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/hab_publication/habfs_bulletin_guide.pdf

Detailed sample information can be obtained through the Texas Parks and Wildlife Department at:

http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml

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To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:

http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

Karenia brevis (commonly known as Texas red tide) ranges from not present to high concentrations along the Texas coast in the Port Aransas/Mustang Island to Rio Grande regions. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction. The highest level of potential respiratory irritation forecast for Thursday, September 22 through Monday, September 26 is listed below:

County Region: Forecast (Duration)
Aransas Pass to PINS region: Moderate (Th-M)
Padre Island National Seashore region: Moderate (Th-M)
Mansfield Pass to Beach Access 6 region: Moderate (Th-M)
Beach Access 6 to Rio Grande region: High (Th-M)
Bay region-Lower Laguna Madre to Laguna Vista: Moderate (Th-M)
All Other Texas Regions: None expected (Th-M)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations. Over the past few days, reports of respiratory irritation, dead fish, and discolored water have been received from the Lower Laguna Madre to Laguna Vista region and respiratory irritation has been reported from the Beach Access 6 to Rio Grande region.

Analysis

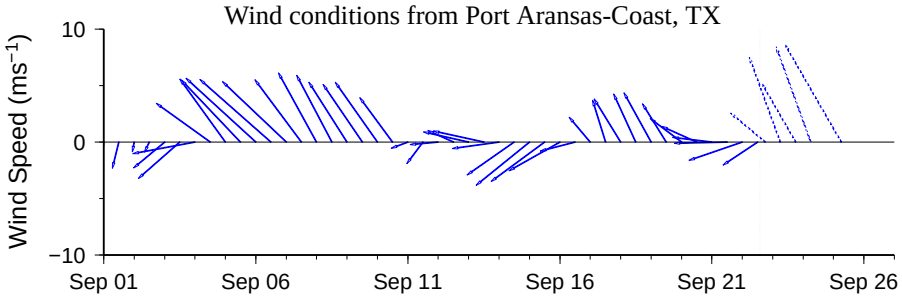
Recent samples collected along- and offshore the coast of Texas from Port Aransas/Mustang Island to the Rio Grande region have identified 'not present' to 'high' concentrations of *Karenia brevis*, with the highest concentrations collected from Beach Access 6 to the Rio Grande region and within the bay region of Lower Laguna Madre (TPWD; 9/15-21). In the Aransas Pass to Padre Island National Seashore (PINS) region, sampling offshore indicates *K. brevis* ranges from 'not present' to 'low a' (TPWD; 9/15-20), while sampling from the Texas A&M University's Imaging FlowCytobot, located on the Port Aransas ship channel, indicates that *K. brevis* ranges between 'not present' and 'very low a' concentrations (TAMU; 9/19-22). In the Corpus Christi Bay region, *K. brevis* is 'not present' (TPWD; 9/20). In the PINS region, samples indicate *K. brevis* increased up to 'medium' concentrations (TPWD; 9/15-19). In the Mansfield Pass to Beach Access 6 region, sampling offshore indicates *K. brevis* ranges from 'not present' to 'background' concentrations' (TPWD; 9/16). In the Beach Access 6 to Rio Grande region and in the Lower Laguna Madre to Laguna Vista bay regions samples indicate that *K. brevis* has increased to a range of 'not present' to 'high' concentrations with 'not present' to 'very low a' concentrations collected offshore (TWPD; 9/15-21). Detailed sample information and a summary of impacts can be obtained through Texas Parks and Wildlife Department at: http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml. For information on area shellfish restrictions, contact the Texas Department of State Health Services.

Recent MODIS Aqua imagery (9/19; shown left) is partially obscured by clouds along the Texas coast from Sabine Pass to the Matagorda Peninsula region, limiting analysis. Patches of elevated to very high chlorophyll (2 to >20 μg/L) are visible offshore from Sabine Pass to Matagorda Peninsula region. Elevated chlorophyll is not necessarily indicative of the presence of *K. brevis* and may be due to the resuspension of benthic

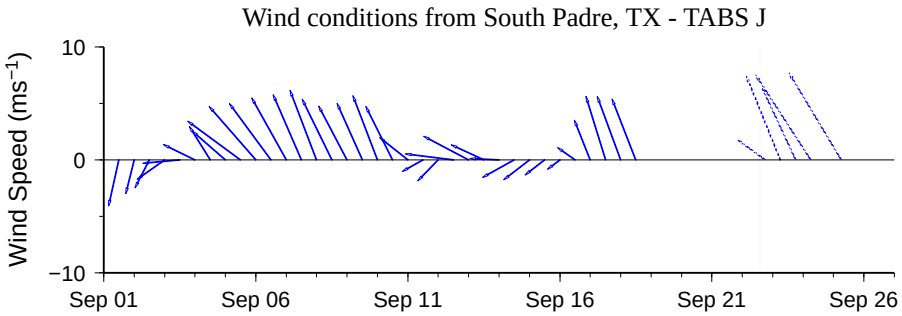
chlorophyll and sediments along the coast. Patches of elevated to very high chlorophyll (2 to >20μg/L) are present along- and offshore from the Matagorda Island region to approximately 85 km south of the Rio Grande. Along the Texas coast, chlorophyll appears to be highest in the areas along the Matagorda Island region and from PINS to the Rio Grande region. Continued sampling is recommended.

Forecast models based on predicted near-surface currents indicate a maximum transport of 40 km south from the Port Aransas region, 15 km north from PINS Mile Marker #15, and 120 km north from Brazos Santiago Pass from September 19-25.

Kavanaugh, Davis



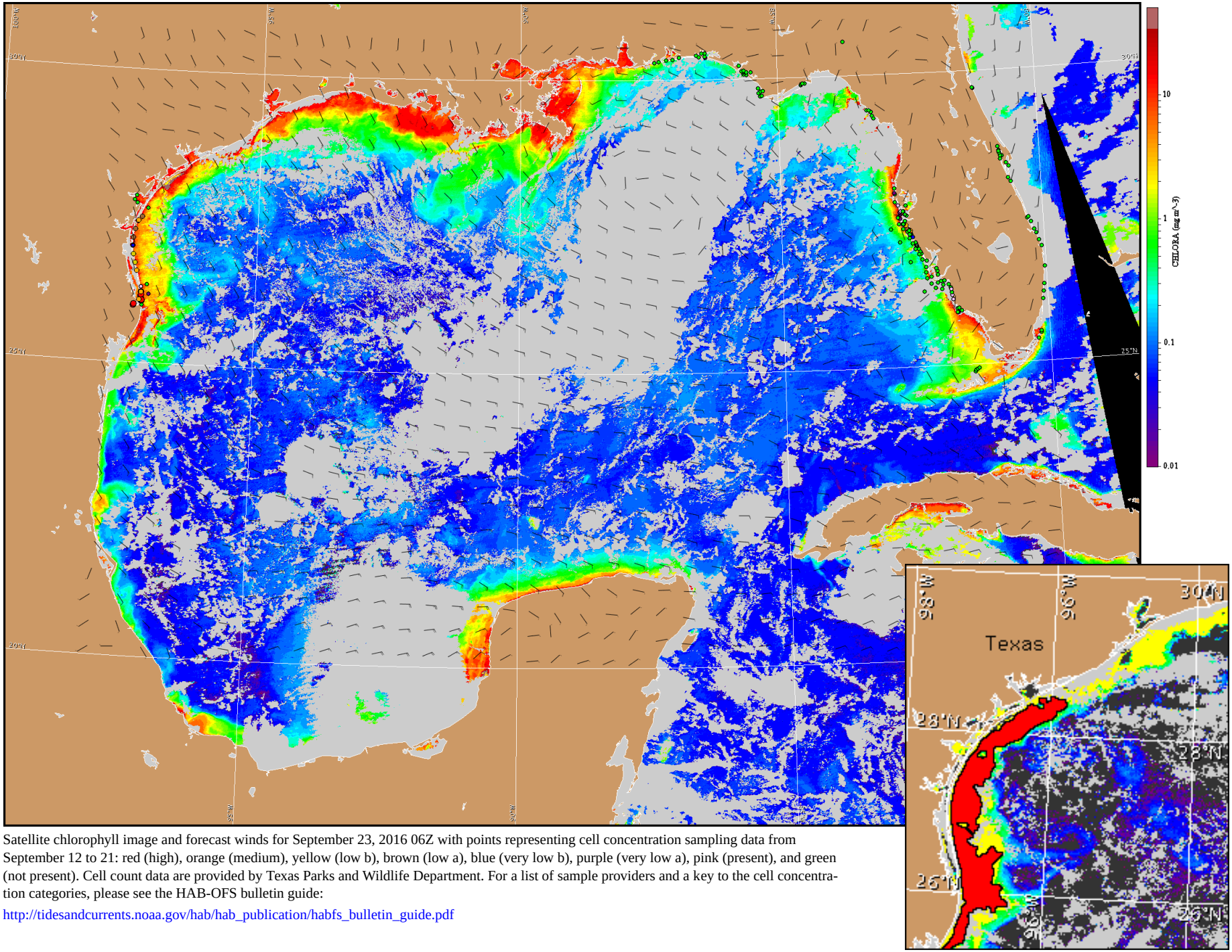
Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



Wind Analysis

Baffin Bay to Port Aransas: Southeast to south winds (5-20kn, 3-10m/s) today through Monday becoming east winds (5-10kn, 3-5m/s) Monday afternoon. Northeast winds (10-15kn, 5-8m/s) Monday night.

Baffin Bay to Port Mansfield: Light winds today becoming southeast to south winds (7-17kn, 4-9m/s) this afternoon through Sunday night. Northeast winds (9-14kn, 5-7m/s) Monday becoming north winds (12-17kn, 6-9m/s) Monday night.



Satellite chlorophyll image and forecast winds for September 23, 2016 06Z with points representing cell concentration sampling data from September 12 to 21: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).